

ENERGY STATEMENT

457-461 HIGH ROAD, LONDON N22 8JD

Planning Ref: HGY/2020/0789

1-INTRODUCTION

REAR OF 457-461 HIGH ROAD, LONDON N22 8JD

Demolition of lock up garages and erection of two x 3 bedroom houses



Site Photo

Almost half of the UK's carbon dioxide emissions come from energy people use every day, much of it at home. By making more efficient use of energy and reducing waste it can all help prevent climate change and save money on bills. This proposal is meeting the government and local council's relevant energy targets with specific reference to London Plan Policies.

Proposed development makes the fullest contribution to minimizing carbon dioxide emissions by

- Using less energy
- Supplying energy efficiently
- Using renewable energy

This development proposal also meets the sustainable design standards, including its construction and operation by

- minimizing carbon dioxide emissions across the site, including the

building and services (such as heating and cooling systems)

- avoiding internal overheating
- efficient use of natural resources (including water), including making the most of natural systems both within and around buildings
- minimizing pollution (including noise, air and urban runoff)
- minimizing the generation of waste and maximising reuse or recycling
- ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions
- securing sustainable procurement of materials, using local supplies, and
- promoting and protecting biodiversity and green infrastructure

In the following part how the above targets are met detailed:

2-THERMAL BRIDGING

Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element, (i.e. around windows and door openings). Reasonable provision shall also be made to ensure the units are constructed **to minimise unwanted air leakage** through the new building fabric.

3-MATERIALS AND WORKMANSHIP

All materials and workmanship must comply with the Building Regulations, all relevant British Standards, European Standards, Agreement Certificates, Product Certification of Schemes (Kite Marks) etc. Products conforming to a European technical standard or harmonised European product should have a CE marking.

4-USE OF EXISTING MATERIALS

Any usable materials such as timber will be **recycled** and used in the new proposal. The new materials will be provided from **Local suppliers**.

5-TIMBER FLOOR INSULATION

Timber floors will be insulated by laying mineral wool insulation between floorboards supported by netting between the joists. Floorboards will be adequately ventilated.

6-WALL INSULATION

Wall insulation will be provided and this will significantly reduce the amount of energy used to heat the proposed units. Filling the gaps between the walls of the units with an insulating material will also massively decrease the amount of heat, which escapes through the walls. It will help create a more even temperature in the units, help prevent condensation on the walls and ceilings and can also reduce the amount of heat building up inside the units during summer hot spells. Insulated walls will make a great difference.

7-ROOF INSULATION

Insulation to roof will be provided as below to reduce the amount of energy used to heat the proposed units. The insulation materials to achieve U-value 0.18 W/m²K are as follows:
Insulation to be 150mm K7 Kingspan between rafters & K18 Kingspan insulated dry-lining board comprising 12.5mm plasterboard and 25mm of insulation under rafters. 5mm skim coat of finishing plaster to the underside of all ceilings.

8-ENERGY EFFICIENT INTERNAL LIGHTING

Internal energy efficient light to be fitted as calculated in the DER and in compliance with the Commercial Building Services Compliance Guide. **Low energy light fittings will be provided** not less than three per four (excluding infrequently accessed spaces used for storage). **Low energy light fittings should have lamps** with a luminous efficacy greater than 45 lamp lumens per circuit-watt and a total output greater than 400 lamp lumens. Fixed internal lighting to be pin based fluorescent or compact fluorescent lamps or low energy bayonet or Edison screw base compact florescent lamps.

9-CONTROLLED HEATING

All radiators to have TVRs. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations and IEE Regulations.

10-HEATING AND HOT WATER

Using a high efficiency condensing boiler with heating controls will save energy and significantly cut CO2 emissions as boilers account for around 60 per cent of CO2 emissions.

Choosing a heating system with a high efficiency condensing boiler with the correct heating controls will make a huge difference to energy saving and heating bills over time.

11-ENERGY EFFICIENT NEW GAS BOILER

Heating and hot water will be supplied to each unit separately via a wall mounted condensing vertical balanced flue pressurised boiler **with a min SEDBUK rating of 90%**. System to be fitted with thermostatic radiator valves and all necessary zone controls and boiler control interlocks. The system will be installed, commissioned and tested by a "competent person" and a certificate issued to demonstrate that the installation complies with the requirements. Carbon monoxide alarm to be positioned near boiler. Boiler flue to be installed in accordance with Approved Documents, British Gas requirements and manufactures guidance. Flues to be terminated externally with metal terminal guard and positioned a minimum of 600mm away from any openings into the building. Where the flue passes through a wall, floor or roof, enclose in a non-combustible sleeve. Where the flue is within a void provide appropriate and sufficiently sized access to allow inspection of the flue. No combustible materials to be within 50mm of the flue. Provide new-metered gas supply to the units. All works to comply with gas authority standards. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water

Authorities by laws, the Gas Safety (Installation and Use) Regulations and IEE Regulations.

12-WATER EFFICIENCY

The estimated water consumption not to exceed 125 litres per person per day in accordance with Approved Document G2 (or 110L per-person if required by the planning conditions). Water Efficiency to be calculated using the 'Water Efficiency Calculator for New Dwellings' or from the list of fittings from the 'Table of fittings' in ADG to comply with part G. The results submitted to building control before works commence on site. Water calculation to be in compliance with Code for Sustainable Home Level 3/4 as stipulated by the local Planning Authority.

13-CONTROL OF WATER TEMPERATURE

The installation of the hot water supply to comply with Approved Document G3. All showers provided for workers within the units are to be fitted with an inline thermostatic mixing valve to ensure that the temperature of the water delivered to the showers **is limited** to 48°C.

14-HOT WATER PIPES INSULATION

Insulated hot water pipes will be used to save energy.

15-GLAZING

Installing double-glazing will cut heat loss through windows by half. Double-glazing works by trapping air between two panes of glass creating an insulating barrier that reduces heat loss, noise and condensation.

16-WINDOWS

Windows **to be double glazed** with 16mm argon gap and soft coat low-E glass. Window Energy Rating to be Band C or better and to achieve **U-value of 1.6 W/m²K**.

17-TARGET EMISSIONS RATES

Target emissions rate (TER) to be submitted to building control in compliance with SAP 2012 and Approved Document L1A before works commence on site. To comply with Regulation 26 and Regulation 26A the dwellings emissions rate (DER) must not exceed the TER and the dwelling fabric energy efficiency (DFEE) is to be no greater than target fabric energy efficiency (TFEE). The DER, based on the buildings as constructed and incorporating any changes made during construction, and a registered Energy Performance Certificate (EPC) accompanied by a recommendation report in compliance with SAP 2012 and Regulation 29, is to be given to the owner of the building and submitted to building control, no later than 5 days after the work has been completed.

18-LIMITING THE EFFECTS OF SOLAR HEAT GAINS IN SUMMER

Reasonable provision is to be taken to limit solar gains in compliance Approved Documents. Excessive Solar gains to be checked and consideration given to provision of adequate daylight as detailed in BS and Code of Maintaining Adequate Level of Daylight.

19-AIR PERMEABILITY AND PRESSURE TESTING

Reasonable provision shall be made to ensure the extension is constructed to minimise unwanted air leakage through the new building fabric. The new dwelling to be pressure tested by a specialist registered with the British Institute of Non-destructive Testing in compliance with Regulation 43 of the Building Regulations.

The measured air permeability to be not worse than $10 \text{ m}^3/(\text{h}.\text{m}^2)$ at 50 Pa or in compliance with the TER design limits, ensuring the DER calculated using the measured air permeability is not worse than the TER. Where the dwelling is not to be tested an assessed air permeability to the value of $15 \text{ m}^3/(\text{h}.\text{m}^2)$ at 50 Pa is to be assumed for the purpose of the TER. If the required air permeability is not achieved, then remedial measures should be undertaken and a new test carried out until satisfactory performance is achieved. A copy of

the test results to be sent building control no later than 7 days after the test has been carried out.

20-THERMAL BRIDGING

Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element, (i.e. around windows and door openings). Reasonable provision shall also be made to ensure the units are constructed to minimise unwanted air leakage through the new building fabric.

21-CONSIDERATION OF HIGH-EFFICIENCY ALTERNATIVE SYSTEMS FOR NEW BUILDINGS

On commencement of the works, Building Control to be given documentation to confirm consideration has been given to the technical, environmental and economic feasibility of using high-efficiency alternative systems such as decentralised energy supply systems based on energy from renewable sources where available, renewable sources and heat pumps. **The applicants are also going to install solar panels above the roof of the proposed houses to provide the energy required for the units.**

21-SOUND TESTING

Party walls and separating walls to achieve a performance standard of 45 dB (minimum values for airborne sound insulation to walls, floors and stairs) and 62 dB (maximum values for impact sound insulation to floors and stairs) to demonstrate compliance with Approved Document E1. Pre completion sound testing to be carried out by a suitably qualified person with appropriate third party accreditation (either UKAS accreditation or be a member of the Association of Noise Consultants Registration Scheme). Test to be carried out once the dwelling is complete but before carpeting and a copy of the test results given to building control. If any elements were to fail the sound test, remedial works must be undertaken before retesting to the satisfaction of the Building Control Surveyor.